

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	10	US-6387908-\$.DID. OR US-20020091131-\$.DID. OR US-5614632-\$.DID. OR US-20030207413-\$.DID. OR US-6682913-\$.DID. OR US-6696599-\$.DID. OR US-20040039225-\$.DID. OR US-6313289-\$.DID. OR US-6713491-\$.DID. OR US-20030008899-\$.DID.	US-PGPUB; USPAT; USOCR	OR	ON	2007/09/24 11:44
L2	15	epoxysuccinamide	US-PGPUB; USPAT; USOCR	OR	ON	2007/09/24 15:38
L3	1	10/553946	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/09/24 15:37
L4	461	549/512 or 549/541 or 549/549	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/09/24 15:37
L5	2	I4 and epoxysuccinamide	US-PGPUB; USPAT; USOCR	OR	ON	2007/09/24 15:38
L6	97	I4 and (crystallization or crystallize)	US-PGPUB; USPAT; USOCR	OR	ON	2007/09/24 15:40
L7	51	I4 and (crystallization or crystallize) and "alkali metal"	US-PGPUB; USPAT; USOCR	OR	ON	2007/09/24 15:44
L8	48	I4 and (crystallization or crystallize) and "alkali metal" and salt	US-PGPUB; USPAT; USOCR	OR	ON	2007/09/24 15:44

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTADEG1625

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page for STN Seminar Schedule - N. America  
NEWS 2 JUL 02 LMEDLINE coverage updated  
NEWS 3 JUL 02 SCISEARCH enhanced with complete author names  
NEWS 4 JUL 02 CHEMCATS accession numbers revised  
NEWS 5 JUL 02 CA/Capplus enhanced with utility model patents from China  
NEWS 6 JUL 16 Capplus enhanced with French and German abstracts  
NEWS 7 JUL 18 CA/Capplus patent coverage enhanced  
NEWS 8 JUL 26 USPATFULL/USPAT2 enhanced with IPC reclassification  
NEWS 9 JUL 30 USGENE now available on STN  
NEWS 10 AUG 06 CAS REGISTRY enhanced with new experimental property tags  
NEWS 11 AUG 06 BEILSTEIN updated with new compounds  
NEWS 12 AUG 06 FSTA enhanced with new thesaurus edition  
NEWS 13 AUG 13 CA/Capplus enhanced with additional kind codes for granted patents  
NEWS 14 AUG 20 CA/Capplus enhanced with CAS indexing in pre-1907 records  
NEWS 15 AUG 27 Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB  
NEWS 16 AUG 27 USPATOLD now available on STN  
NEWS 17 AUG 28 CAS REGISTRY enhanced with additional experimental spectral property data  
NEWS 18 SEP 07 STN AnaVist, Version 2.0, now available with Derwent World Patents Index  
NEWS 19 SEP 13 FORIS renamed to SOFIS  
NEWS 20 SEP 13 INPADOCDB enhanced with monthly SDI frequency  
NEWS 21 SEP 17 CA/Capplus enhanced with printed CA page images from 1967-1998  
NEWS 22 SEP 17 Capplus coverage extended to include traditional medicine patents  
NEWS 23 SEP 24 EMBASE, EMBAL, and LEMBASE reloaded with enhancements  
NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS LOGIN Welcome Banner and News Items  
NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 16:08:43 ON 24 SEP 2007

=> s epoxysuccinamide and crystallization or recrystallization or "crystalline salt"  
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE  
Some commands only work in certain files. For example, the EXPAND  
command can only be used to look at the index in a file which has an  
index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of  
commands which can be used in this file.

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

1.26

1.26

FILE 'CAPLUS' ENTERED AT 16:12:24 ON 24 SEP 2007

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FILE COVERS 1907 - 24 Sep 2007 VOL 147 ISS 14

FILE LAST UPDATED: 23 Sep 2007 (20070923/ED)

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=> s epoxysuccinamide and crystallization or recrystallization or "crystalline salt"

10 EPOXYSUCCINAMIDE

1 EPOXYSUCCINAMIDES

10 EPOXYSUCCINAMIDE

(EPOXYSUCCINAMIDE OR EPOXYSUCCINAMIDES)

130297 CRYSTALLIZATION

145 CRYSTALLIZATIONS

130358 CRYSTALLIZATION

(CRYSTALLIZATION OR CRYSTALLIZATIONS)

243983 CRYSTN

2426 CRYSTNS

245302 CRYSTN

(CRYSTN OR CRYSTNS)

278024 CRYSTALLIZATION

(CRYSTALLIZATION OR CRYSTN)

25785 RECRYSTALLIZATION

47 RECRYSTALLIZATIONS

25816 RECRYSTALLIZATION

(RECRYSTALLIZATION OR RECRYSTALLIZATIONS)

72869 RECRYSTN

1979 RECRYSTNS

74255 RECRYSTN

(RECRYSTN OR RECRYSTNS)

78085 RECRYSTALLIZATION

(RECRYSTALLIZATION OR RECRYSTN)

79033 "CRYSTALLINE"

253 "CRYSTALLINES"

79264 "CRYSTALLINE"  
       ("CRYSTALLINE" OR "CRYSTALLINES")  
 361745 "CRYST"  
       1801 "CRYSTS"  
 363013 "CRYST"  
       ("CRYST" OR "CRYSTS")  
 388436 "CRYSTALLINE"  
       ("CRYSTALLINE" OR "CRYST")  
 817510 "SALT"  
 625993 "SALTS"  
 1209789 "SALT"  
       ("SALT" OR "SALTS")  
       1777 "CRYSTALLINE SALT"  
           ("CRYSTALLINE" (W) "SALT")  
 L1      79786 EPOXYSUCCINAMIDE AND CRYSTALLIZATION OR RECRYSTALLIZATION OR  
           "CRYSTALLINE SALT"

=> log hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	10.52	11.78

SESSION WILL BE HELD FOR 120 MINUTES  
 STN INTERNATIONAL SESSION SUSPENDED AT 16:13:01 ON 24 SEP 2007

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTADEG1625

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*  
 SESSION RESUMED IN FILE 'CAPLUS' AT 16:24:57 ON 24 SEP 2007  
 FILE 'CAPLUS' ENTERED AT 16:24:57 ON 24 SEP 2007  
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	10.52	11.78

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	10.99	12.25

FILE 'REGISTRY' ENTERED AT 16:25:15 ON 24 SEP 2007  
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STRUCTURE FILE UPDATES: 23 SEP 2007 HIGHEST RN 947726-74-1  
 DICTIONARY FILE UPDATES: 23 SEP 2007 HIGHEST RN 947726-74-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when

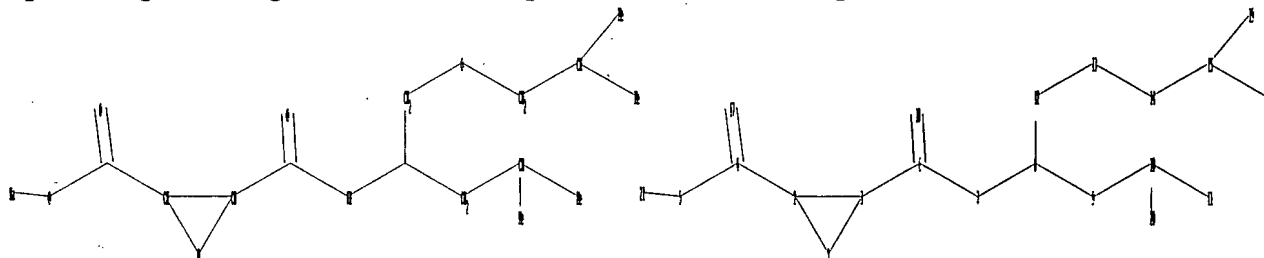
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10-553946genA.str



chain nodes :

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

ring nodes :

1 2 3

chain bonds :

2-4 3-6 4-5 4-17 5-21 6-7 6-18 7-8 8-9 8-12 9-10 10-11 10-20 12-13  
13-14 14-15 15-16 15-19

ring bonds :

1-2 1-3 2-3

exact/norm bonds :

1-2 1-3 2-3 4-5 4-17 6-7 6-18 7-8

exact bonds :

2-4 3-6 5-21 8-9 8-12 9-10 10-11 10-20 12-13 13-14 14-15 15-16 15-19

Match level :

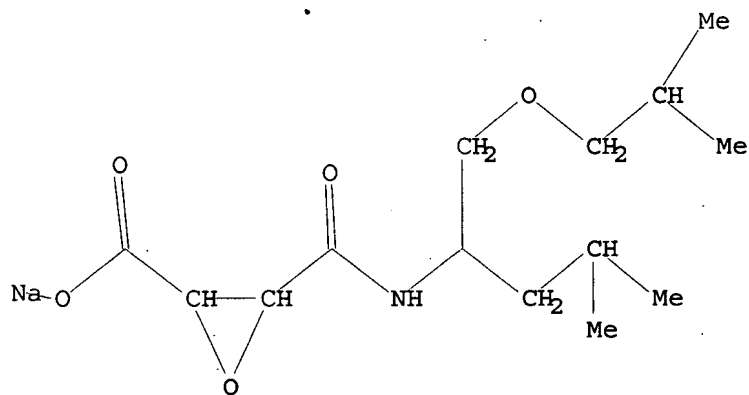
1:Atom 2:Atom 3:Atom 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS  
10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS  
18:CLASS 19:CLASS 20:CLASS 21:CLASS

L2 STRUCTURE UPLOADED

=> d l2

L2 HAS NO ANSWERS

L2 STR



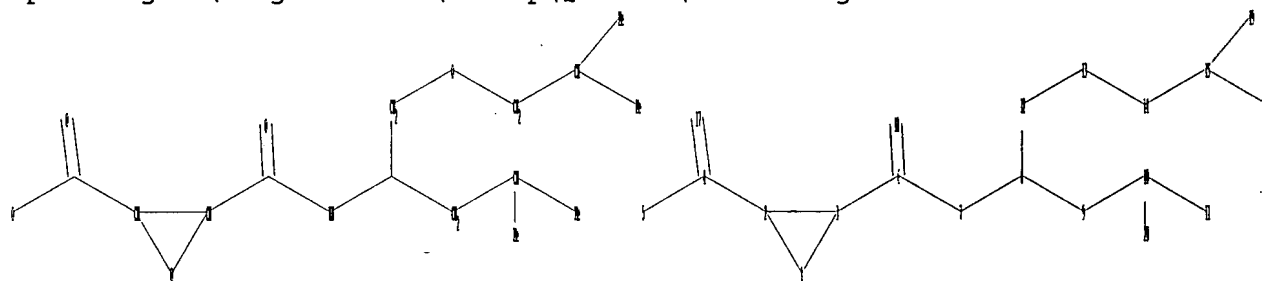
Structure attributes must be viewed using STN Express query preparation.

=> s 12 ful  
 FULL SEARCH INITIATED 16:26:07 FILE 'REGISTRY'  
 FULL SCREEN SEARCH COMPLETED - 9 TO ITERATE

100.0% PROCESSED 9 ITERATIONS 0 ANSWERS  
 SEARCH TIME: 00.00.01

L3 0 SEA SSS FUL L2

=>  
 Uploading C:\Program Files\Stnexp\Queries\10-553946genB.str



chain nodes :  
 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 ring nodes :  
 1 2 3  
 chain bonds :  
 2-4 3-6 4-5 4-17 6-7 6-18 7-8 8-9 8-12 9-10 10-11 10-20 12-13 13-14  
 14-15 15-16 15-19  
 ring bonds :  
 1-2 1-3 2-3  
 exact/norm bonds :  
 1-2 1-3 2-3 4-5 4-17 6-7 6-18 7-8  
 exact bonds :  
 2-4 3-6 8-9 8-12 9-10 10-11 10-20 12-13 13-14 14-15 15-16 15-19

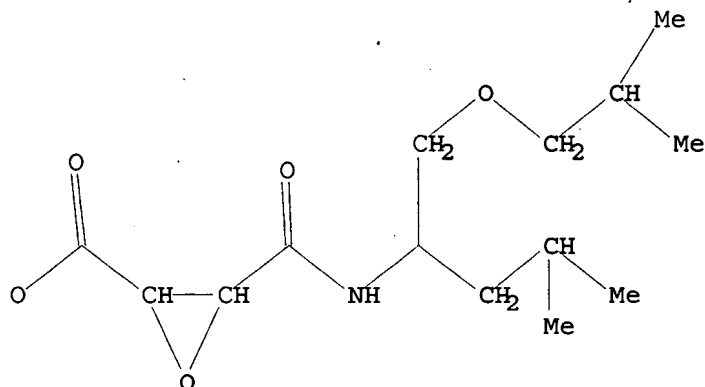
Match level :  
 1:Atom 2:Atom 3:Atom 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS  
 10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS  
 18:CLASS 19:CLASS 20:CLASS

L4 STRUCTURE UPLOADED

=> d 14

L4 HAS NO ANSWERS

L4 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 14 sss ful

FULL SEARCH INITIATED 16:28:47 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 416 TO ITERATE

100.0% PROCESSED 416 ITERATIONS

19 ANSWERS

SEARCH TIME: 00.00.01

L5 19 SEA SSS FUL L4

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

346.00

358.25

FILE 'CAPLUS' ENTERED AT 16:29:04 ON 24 SEP 2007

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=> s 15

L6            2 L5

=> d 16 1-2 abs ibib hitstr



L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN

AB This invention is intended to purify (2S,3S)-3-[[[(1S)-1-isobutoxymethyl-3-methylbutyl]carbamoyl]oxirane-2-carboxylic acid with the use of a salt from the carboxylic acid and an organic amine selected from among piperazine, adamantanamines, etc. and to provide crystalline sodium and potassium salts of the carboxylic acid which are enhanced in storage stability so as to be suitable for use as a raw material for medicinal drug. By this method, the title carboxylic acid was obtained in 99.9% purity.

ACCESSION NUMBER: 2004:965234 CAPLUS

DOCUMENT NUMBER: 141:410803

TITLE: Process for preparation of (2S,3S)-3-[[[(1S)-1-isobutoxymethyl-3-methylbutyl]carbamoyl]oxirane-2-carboxylic acid salts

INVENTOR(S): Tendo, Atsushi; Takahashi, Toshihiro; Yamakawa, Tomio;

PATENT ASSIGNEE(S): Okai, Kazuki; Nihashi, Susumu

SOURCE: Nippon Chemphar Co., Ltd., Japan

CODE: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004056785	A1	20041111	WO 2004-JP5767	20040422
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004234235	A1	20041111	AU 2004-234235	20040422
CA 2523233	A1	20041111	CA 2004-2523233	20040422
EP 1619190	A1	20060125	EP 2004-728921	20040422
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,				
HR				
CN 1809549	A	20060726	CN 2004-80017044	20040422
US 2006252826	A1	20061109	US 2005-553946	20051021
IN 2005CN02749	A	20070601	IN 2005-CN2749	20051024
PRIORITY APPLM. INFO.:			JP 2003-121103	A 20030425
			WO 2004-JP5767	W 20040422

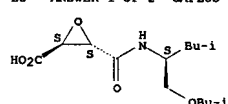
IT 777838-84-3P 791627-71-9P 791627-72-0P

791627-73-1P 791627-74-2P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate; preparation of (2S,3S)-3-[[[(1S)-1-isobutoxymethyl-3-methylbutyl]carbamoyl]oxirane-2-carboxylic acid salts)

RN 777838-84-3 CAPLUS

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

CRN 140-28-3  
CMF C16 H20 N2

Ph-CH<sub>2</sub>-NH-CH<sub>2</sub>-CH<sub>2</sub>-NH-CH<sub>2</sub>-Ph

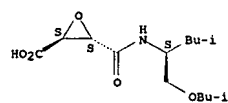
RN 791627-73-1 CAPLUS

CN D-glucitol, 1-deoxy-1-(methylamino)-, (2S,3S)-3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]oxirane-2-carboxylate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 777838-84-3  
CMF C14 H25 N O5

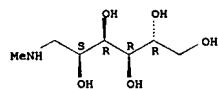
Absolute stereochemistry.



CM 2

CRN 6284-40-8  
CMF C7 H17 N O5

Absolute stereochemistry.



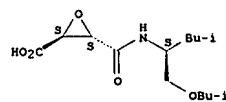
RN 791627-74-2 CAPLUS

CN lysine, mono[(2S,3S)-3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]oxirane-2-carboxylate] (9CI) (CA INDEX NAME)

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)- (CA INDEX NAME)

Absolute stereochemistry.



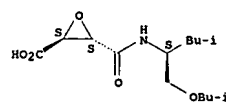
RN 791627-71-9 CAPLUS

CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)-, compd. with cyclohexanamine (1:1) (CA INDEX NAME)

CM 1

CRN 777838-84-3  
CMF C14 H25 N O5

Absolute stereochemistry.



CM 2

CRN 108-91-8  
CMF C6 H13 N



RN 791627-72-0 CAPLUS

CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)-, compd. with N1,N2-bis(phenylmethyl)-1,2-ethanediamine (1:1) (CA INDEX NAME)

CM 1

CRN 777838-84-3  
CMF C14 H25 N O5

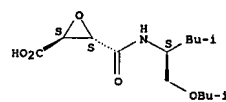
Absolute stereochemistry.

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CM 1

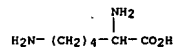
CRN 777838-84-3  
CMF C14 H25 N O5

Absolute stereochemistry.



CM 2

CRN 70-54-2  
CMF C6 H14 N2 O2



IT 221144-20-3P 791627-75-3P 791627-77-5P

791627-78-6P 791627-79-7P 791627-80-0P

791627-81-1P 791627-82-2P

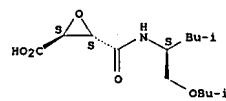
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of (2S,3S)-3-[[[(1S)-1-isobutoxymethyl-3-methylbutyl]carbamoyl]oxirane-2-carboxylic acid salts)

RN 221144-20-3 CAPLUS

CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, sodium salt (1:1), (2S,3S)- (CA INDEX NAME)

Absolute stereochemistry.

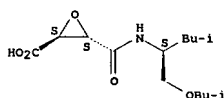


● Na

RN 791627-75-3 CAPLUS

CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, potassium salt (1:1), (2S,3S)- (CA INDEX NAME)

Absolute stereochemistry.



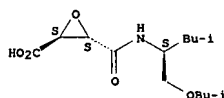
● K

RN 791627-77-5 CAPLUS  
 CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)-, compd. with piperazine (1:1) (CA INDEX NAME)

CM 1

CRN 777838-84-3  
 CMF C14 H25 N O5

Absolute stereochemistry.



CM 2

CRN 110-85-0  
 CMF C4 H10 N2



RN 791627-78-6 CAPLUS  
 CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)-, compd. with tricyclo[3.3.1.1<sup>3,7</sup>]decan-1-amine (1:1) (CA INDEX NAME)

CM 1

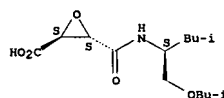
CRN 777838-84-3  
 CMF C14 H25 N O5

RN 791627-80-0 CAPLUS  
 CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)-, compd. with N-cyclohexylcyclohexanamine (1:1) (CA INDEX NAME)

CM 1

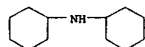
CRN 777838-84-3  
 CMF C14 H25 N O5

Absolute stereochemistry.



CM 2

CRN 101-83-7  
 CMF C12 H23 N

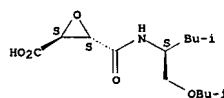


RN 791627-81-1 CAPLUS  
 CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (CA INDEX NAME)

CM 1

CRN 777838-84-3  
 CMF C14 H25 N O5

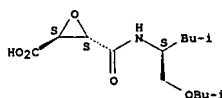
Absolute stereochemistry.



CM 2

CRN 77-86-1  
 CMF C4 H11 N O3

Absolute stereochemistry.



CM 2

CRN 768-94-5  
 CMF C10 H17 N

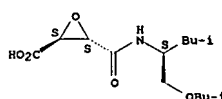


RN 791627-79-7 CAPLUS  
 CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, (2S,3S)-, compd. with tricyclo[3.3.1.1<sup>3,7</sup>]decan-2-amine (1:1) (CA INDEX NAME)

CM 1

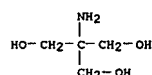
CRN 777838-84-3  
 CMF C14 H25 N O5

Absolute stereochemistry.



CM 2

CRN 13074-39-0  
 CMF C10 H17 N

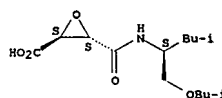


RN 791627-82-2 CAPLUS  
 CN L-Arginine, mono[(2S,3S)-3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]oxiranecarboxylate] (9CI) (CA INDEX NAME)

CM 1

CRN 777838-84-3  
 CMF C14 H25 N O5

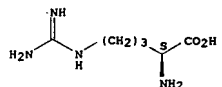
Absolute stereochemistry.



CM 2

CRN 74-79-3  
 CMF C6 H14 N4 O2

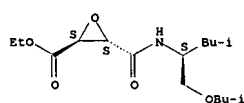
Absolute stereochemistry.



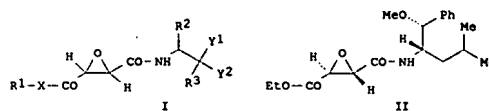
IT 791627-76-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of (2S,3S)-3-[[[(1S)-1-isobutoxymethyl-3-methylbutyl]carbamoyl]oxirane-2-carboxylic acid salts)

RN 791627-76-4 CAPLUS  
 CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, ethyl ester, (2S,3S)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE  
FORMAT



AB Novel epoxysuccinamide derivs. (3-carboxyoxirane-2-carboxamides) represented by general formula (I) or physiol. acceptable salts thereof [wherein R1 and R3 are each H, alkyl, alkenyl, alkynyl, aryl, aralkyl, a heterocyclic group, or alkyl substituted with a heterocyclic group; R2 is alkyl, alkenyl, alkynyl, aryl, aralkyl, a heterocyclic group, or alkyl substituted with a heterocyclic group; X is O or NR4 (wherein R4 is H, alkyl, aryl, aralkyl, a heterocyclic group, or alkyl substituted with a heterocyclic group); Y1 is OR5, SR6 or NR7R8 (wherein R5, R6 and R7 are each H, alkyl, aryl, aralkyl, acyl, a heterocyclic group, or alkyl substituted with a heterocyclic group; and R8 is the same as defined as

to R4); and Y2 is H or alkyl, or alternatively Y1 and Y2 may be united to form =O, =S, =N-R9 or =N-OR10 (wherein R9 and R10 are each the same as defined as to R4), with the proviso that the alkyl, aryl and heterocyclic groups defined as to R5 to R10 may each have one or more specific substituents and that the groups defined as to R1 to R10 and Y2 are each specified in the number of carbon atoms] are prepared These compds.

inhibit bone absorption and activity of cathepsin L and B (cysteine protease) and are useful for the treatment of bone diseases such as osteoporosis, malignant hypercalcemia, and Paget's disease of bone, arthritis deformans and chronic articular rheumatism accompanied by unusual exasperation of cathepsin B and L activity, and muscular dystrophy and muscular atrophy related to cathepsin B and L. Thus, (2S,3S)-3-ethoxycarbonyloxirane-2-carboxylic acid was condensed with (S)-1-[(R)-α-methoxybenzyl]-3-methylbutylamine using N-hydroxysuccinimide and DCC in EtOAc at room temperature overnight to give the title compound (II). II at 15 mg/kg p.o. lowered serum calcium by 20.4% in rat.

ACCESSION NUMBER: 1999:184251 CAPLUS  
DOCUMENT NUMBER: 130:223163  
TITLE: Preparation of epoxysuccinamide derivatives for treatment of bone diseases and arthritis  
INVENTOR(S): Nomura, Yutaka; Takahashi, Toshihiro; Yoshino, Yasushi; Nishioka, Koichiro  
PATENT ASSIGNEE(S): Nippon Chemphar Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 86 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

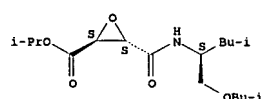
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9911640	A1	19990311	WO 1998-JP3983	19980904

W: AU, CA, CN, JP, KR, RU, US  
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
AU 9889978 A 19990322 AU 1998-89978 19980904  
EP 1022276 A1 20000726 EP 1998-941728 19980904  
EP 1022276 B1 20030528  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI  
AT 241607 T 20030615 AT 1998-941728 19980904  
EP 1342720 A2 20030910 EP 2003-11154 19980904  
EP 1342720 A3 20040211  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY  
PT 1022276 T 20031031 PT 1998-941728 19980904  
ES 2201524 T3 20040316 ES 1998-941728 19980904  
US 6387908 B1 20020514 US 2000-508026 20000505  
US 2002091131 A1 20020711 US 2002-42994 20020108  
US 6689785 B2 20040210

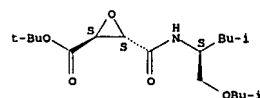
PRIORITY APPLN. INFO.: JP 1997-257538 A 19970904  
EP 1998-941728 A3 19980904  
WO 1998-JP3983 W 19980904  
US 2000-508026 A3 20000505

OTHER SOURCE(S): MARPAT 130:223163  
IT 221144-15-6P 221144-16-7P 221144-17-8P  
221144-18-9P 221144-19-0P 221144-20-3P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of epoxysuccinamide derivs. as bone absorption inhibitors and cathepsin B and L inhibitors for treatment of bone diseases and arthritis)

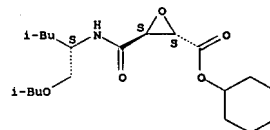
RN 221144-15-6 CAPLUS  
CN Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, 1-methylethyl ester, (2S,3S)- (9CI) (CA INDEX NAME)  
Absolute stereochemistry.



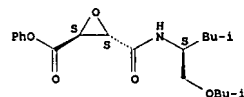
RN 221144-16-7 CAPLUS  
CN Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, 1,1-dimethylethyl ester, (2S,3S)- (9CI) (CA INDEX NAME)  
Absolute stereochemistry.



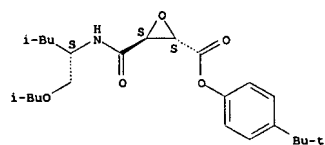
RN 221144-17-8 CAPLUS  
CN Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, cyclohexyl ester, (2S,3S)- (9CI) (CA INDEX NAME)  
Absolute stereochemistry.



RN 221144-18-9 CAPLUS  
CN Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, phenyl ester, (2S,3S)- (9CI) (CA INDEX NAME)  
Absolute stereochemistry.

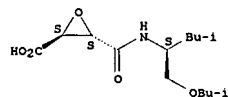


RN 221144-19-0 CAPLUS  
CN Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, 4-(1,1-dimethylethyl)phenyl ester, (2S,3S)- (9CI) (CA INDEX NAME)  
Absolute stereochemistry.



RN 221144-20-3 CAPLUS  
 CN 2-Oxiranecarboxylic acid, 3-[[[(1S)-3-methyl-1-[(2-methylpropoxy)methyl]butyl]amino]carbonyl]-, sodium salt (1:1), (2S,3S)-  
 (CA INDEX NAME)

Absolute stereochemistry.



● Na

REFERENCE COUNT: 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR  
 THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE  
 FORMAT

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(FILE 'HOME' ENTERED AT 16:08:43 ON 24 SEP 2007)

FILE 'CAPLUS' ENTERED AT 16:12:24 ON 24 SEP 2007

L1 79786 S EPOXYSUCCINAMIDE AND CRYSTALLIZATION OR RECRYSTALLIZATION OR

FILE 'REGISTRY' ENTERED AT 16:25:15 ON 24 SEP 2007

L2 STRUCTURE UPLOADED

L3 0 S L2 FUL

L4 STRUCTURE UPLOADED

L5 19 S L4 SSS FUL

FILE 'CAPLUS' ENTERED AT 16:29:04 ON 24 SEP 2007

L6 2 S L5

=> s l1 and l6

L7 1 L1 AND L6

=> d l7 abs ibib

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS ON STN

AB This invention is intended to purify  
(2S,3S)-3-[[[(1S)-1-isobutoxymethyl-3-methylbutyl]carbamoyl]oxirane-2-carboxylic acid with the use of a salt from the carboxylic acid and an organic amine selected from among piperazine, adamantanamines, etc. and to provide crystalline sodium and potassium salts of

the carboxylic acid which are enhanced in storage stability so as to be suitable for use as a raw material for medicinal drug. By this method, the title carboxylic acid was obtained in 99.9% purity.

ACCESSION NUMBER: 2004-965234 CAPLUS  
DOCUMENT NUMBER: 141:410803

TITLE: Process for preparation of (2S,3S)-3-[[[(1S)-1-isobutoxymethyl-3-methylbutyl]carbamoyl]oxirane-2-carboxylic acid salts

INVENTOR(S): Tendo, Atsushi; Takahashi, Toshihiro; Yamakawa, Tomio;

PATENT ASSIGNEE(S): Okai, Kazuki; Nihashi, Susumu  
Nippon Chemiphar Co., Ltd., Japan

SOURCE: PCT Int. Appl., 35 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004096785	A1	20041111	WO 2004-JP5767	20040422
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004234235	A1	20041111	AU 2004-234235	20040422
CA 2523233	A1	20041111	CA 2004-2523233	20040422
EP 1619190	A1	20060125	EP 2004-728921	20040422
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,				
HR				
CN 1809549	A	20060726	CN 2004-80017044	20040422
US 2006252826	A1	20061109	US 2005-553946	20051021
IN 2005CN02749	A	20070601	IN 2005-CN2749	20051024
PRIORITY APPLN. INFO.:			JP 2003-121103	A 20030425
			WO 2004-JP5767	W 20040422

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

17.13

375.38

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-2.34

-2.34

SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 16:33:43 ON 24 SEP 2007